

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior listings thereof.

Claims 1-42 (cancelled).

Claim 43 (new): An oligonucleotide which has the formula (in 5' to 3' order): A-B-C-D, in which,

A represents a sequence of locked nucleotide units;

B represents a sequence of non-locked nucleotide units;

C represents a sequence of locked nucleotide units; and

D represents a non-locked nucleotide unit or a sequence of non-locked nucleotide units.

Claim 44 (new): An oligonucleotide according to claim 43, wherein B represents a sequence of locked nucleotide units wherein at least one unit within B has a 2'-deoxy pentofuranose sugar moiety.

Claim 45 (new): An oligonucleotide according to claim 43, wherein B represents a sequence of non-locked nucleotide units wherein 1 or 2 nucleotide units within B are substituted with locked nucleotide units.

Claim 46 (new): An oligonucleotide according to claim 43, wherein B represents a sequence of non-locked nucleotide units wherein 1 or 2 nucleotide units within B are substituted with alpha-L-oxy-LNA locked nucleotide units.

Claim 47 (new): An oligonucleotide according to claim 43, wherein:

A has a length of between 2-6 nucleotide units;

B has a length of between 4-12 nucleotide units;

C has a length of between 1-5 nucleotide units;

D has a length of 1-3 nucleotide units;

and the overall length of the oligonucleotide is between 8-26 nucleotide

units.

Claim 48 (new): An oligonucleotide according to claim 43, wherein:

A has a length between 3-5 nucleotide units;

B has a length between 6-10 nucleotide units;

C has a length between 2-4 nucleotide units;

D has between 1-2 nucleotide units;

and the overall length of the oligonucleotide is between 12-21 nucleotide units.

Claim 49 (new): An oligonucleotide according to claim 43, wherein:

A has a length of 4 nucleotide units;

B has a length between 7-9 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide unit;

and the overall length of the oligonucleotide is between 15-17 nucleotide units.

Claim 50 (new): An oligonucleotide according to claim 43, wherein

A has a length of 4 nucleotide units;

B has a length of 8 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide unit;

and the overall length of the oligonucleotide is 16 nucleotide units.

Claim 51 (new): An oligonucleotide according to claim 43, in which the locked nucleotide units in A and C are beta-D-oxy-LNA units.

Claim 52 (new): An oligonucleotide according to claim 44, in which the locked nucleotide units in A and C are beta-D-oxy-LNA units.

Claim 53 (new): An oligonucleotide according to claim 45, in which the locked nucleotide units in A and C are beta-D-oxy-LNA units.

Claim 54 (new): An oligonucleotide according to claim 46, in which the locked nucleotide units in A and C are beta-D-oxy-LNA units.

Claim 55 (new): An oligonucleotide according to claim 47, in which the locked nucleotide units in A and C are beta-D-oxy-LNA units.

Claim 56 (new): An oligonucleotide according to claim 48, in which the locked nucleotide units in A and C are beta-D-oxy-LNA units.

Claim 57 (new): An oligonucleotide according to claim 49, in which the locked nucleotide units in A and C are beta-D-oxy-LNA units.

Claim 58 (new): An oligonucleotide according to claim 50, in which the locked nucleotide units in A and C are beta-D-oxy-LNA units.

Claim 59 (new): An oligonucleotide according to claim 43, wherein the internucleoside linkages independently are selected from the group consisting of $-O-P(O)_2-O-$, $-O-P(O,S)-O-$, $-O-P(S)_2-O-$, $-NR^H-P(O)_2-O-$, $-O-P(O,NR^H)-O-$, $-O-PO(R'')-O-$, $-O-PO(CH_3)-O-$, and $-O-PO(NHR^N)-O-$, where R^H is selected from hydrogen and C_{1-6} -alkyl, and R'' is selected from C_{1-6} -alkyl and phenyl.

Claim 60 (new): An oligonucleotide according to claim 43, in which B comprises at least one internucleotide linkage which is not a $-O-P(O)_2-O-$ linkage.

Claim 61 (new): An oligonucleotide according to claim 43, in which B comprises at least one internucleotide linkage which is not a phosphorothioate linkage.

Claim 62 (new): An oligonucleotide according to claim 43, in which B represents a sequence of nucleotide units that makes the oligonucleotide able to recruit RNase H when hybridised to a target nucleic acid.

Claim 63 (new): An oligonucleotide according to claim 43, wherein:

A has a length between 3-5 nucleotide units;

B has a length between 6-10 nucleotide units;

C has a length between 2-4 nucleotide units;

D has a length between 1-2 nucleotide units;

the overall length of the oligonucleotide is between 12-21 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B represents a sequence of nucleotide units that makes the oligonucleotide able to recruit RNase H when hybridised to a target nucleic acid.

Claim 64 (new): An oligonucleotide according to claim 43 wherein:

A has a length between 3-5 nucleotide units;

B has a length between 6-10 nucleotide units;

C has a length between 2-4 nucleotide units;

D has a length between 1-2 nucleotide units;

the overall length of the oligonucleotide is between 12-21 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein the internucleoside linkages independently are selected from the group consisting of -O-P(O)₂-O-, -O-P(O,S)-O-, -O-P(S)₂-O-, -NR^H-P(O)₂-O-, -O-P(O,NR^H)-O-, -O-PO(R'')-O-, -O-PO(CH₃)-O-, and -O-PO(NHR^N)-O- where R^H is selected from hydrogen and C₁₋₆-alkyl, and R'' is selected from C₁₋₆-alkyl and phenyl.

Claim 65 (new): An oligonucleotide according to claim 43, wherein:

A has a length between 3-5 nucleotide units;

B has a length between 6-10 nucleotide units;

C has a length between 2-4 nucleotide units;
D has a length between 1-2 nucleotide units;
the overall length of the oligonucleotide is between 12-21 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B comprises at least one internucleotide linkage which is not a $-O-P(O)_2-O-$ linkage.

Claim 66 (new): An oligonucleotide according to claim 43, wherein:

A has a length between 3-5 nucleotide units;
B has a length between 6-10 nucleotide units;
C has a length between 2-4 nucleotide units;
D has a length between 1-2 nucleotide units;
the overall length of the oligonucleotide is between 12-21 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B comprises at least one internucleotide linkage which is not a phosphorothioate linkage.

Claim 67 (new): An oligonucleotide according to claim 43, wherein:

A has a length between 2-6 nucleotide units;
B has a length between 4-12 nucleotide units;
C has a length between 1-5 nucleotide units;
D has a length between 1-3 nucleotide units;
the overall length of the oligonucleotide is between 8-26 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B represents a sequence of nucleotide units that makes the oligonucleotide able to recruit RNase H when hybridised to a target nucleic acid.

Claim 68 (new): An oligonucleotide according to claim 43, wherein:

A has a length between 2-6 nucleotide units;
B has a length between 4-12 nucleotide units;
C has a length between 1-5 nucleotide units;
D has a length between 1-3 nucleotide units;

the overall length of the oligonucleotide is between 8-26 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein the internucleoside linkages independently are selected from the group consisting of -O-P(O)₂-O-, -O-P(O,S)-O-, -O-P(S)₂-O-, -NR^H-P(O)₂-O-, -O-P(O,NR^H)-O-, -O-PO(R["])-O-, -O-PO(CH₃)-O-, and -O-PO(NHR^N)-O- where R^H is selected from hydrogen and C₁₋₆-alkyl, and R["] is selected from C₁₋₆-alkyl and phenyl.

Claim 69 (new): An oligonucleotide according to claim 43, wherein:

A has a length between 2-6 nucleotide units;

B has a length between 4-12 nucleotide units;

C has a length between 1-5 nucleotide units;

D has a length between 1-3 nucleotide units; the overall length of the oligonucleotide is between 8-26 nucleotide units;

the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B comprises at least one internucleotide linkage which is not a -O-P(O)₂-O- linkage.

Claim 70 (new): An oligonucleotide according to claim 43, wherein:

A has a length between 2-6 nucleotide units;

B has a length between 4-12 nucleotide units;

C has a length between 1-5 nucleotide units;

D has a length between 1-3 nucleotide units; the overall length of the oligonucleotide is between 8-26 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B comprises at least one internucleotide linkage which is not a phosphorothioate linkage.

Claim 71 (new): An oligonucleotide according to claim 43, wherein:

A has a length of 4 nucleotide units;

B has a length between 7-9 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide unit;

the overall length of the oligonucleotide is between 15-17 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B represents a sequence of nucleotide units that makes the oligonucleotide able to recruit RNase H when hybridised to a target nucleic acid.

Claim 72 (new): An oligonucleotide according to claim 43, wherein:

A has a length of 4 nucleotide units;

B has a length between 7-9 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide unit;

the overall length of the oligonucleotide is between 15-17 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein the internucleoside linkages independently are selected from the group consisting of -O-P(O)₂-O-, -O-P(O,S)-O-, -O-P(S)₂-O-, -NR^H-P(O)₂-O-, -O-P(O,NR^H)-O-, -O-PO(R["])-O-, -O-PO(CH₃)-O-, and -O-PO(NHR^N)-O- where R^H is selected from hydrogen and C₁₋₆-alkyl, and R["] is selected from C₁₋₆-alkyl and phenyl.

Claim 73 (new): An oligonucleotide according to claim 43, wherein:

A has a length of 4 nucleotide units;

B has a length between 7-9 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide unit;

the overall length of the oligonucleotide is between 15-17 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B comprises at least one internucleotide linkage which is not a -O-P(O)₂-O- linkage.

Claim 74 (new): An oligonucleotide according to claim 43, wherein:

A has a length of 4 nucleotide units;

B has a length between 7-9 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide unit;
the overall length of the oligonucleotide is between 15-17 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B comprises at least one internucleotide linkage which is not a phosphorothioate linkage.

Claim 75 (new): An oligonucleotide according to claim 43, wherein

A has a length of 4 nucleotide units;

B has a length of 8 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide unit;

the overall length of the oligonucleotide is 16 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B represents a sequence of nucleotide units that makes the oligonucleotide able to recruit RNase H when hybridised to a target nucleic acid.

Claim 76 (new): An oligonucleotide according to claim 43, wherein

A has a length of 4 nucleotide units;

B has a length of 8 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide units;

the overall length of the oligonucleotide is 16 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein the internucleoside linkages independently are selected from the group consisting of -O-P(O)₂-O-, -O-P(O,S)-O-, -O-P(S)₂-O-, -NR^H-P(O)₂-O-, -O-P(O,NR^H)-O-, -O-PO(R'')-O-, -O-PO(CH₃)-O-, and -O-PO(NHR^N)-O- where R^H is selected from hydrogen and C₁₋₆-alkyl, and R'' is selected from C₁₋₆-alkyl and phenyl.

Claim 77 (new): An oligonucleotide according to claim 43, wherein

A has a length of 4 nucleotide units;

B has a length of 8 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide units;

the overall length of the oligonucleotide is 16 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; and wherein B comprises at least one internucleotide linkage which is not a -O-P(O)₂-O- linkage.

Claim 78 (new): An oligonucleotide according to claim 43, wherein

A has a length of 4 nucleotide units;

B has a length of 8 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide units;

the overall length of the oligonucleotide is 16 nucleotide units;

the locked nucleotide units in A and C are beta-D-oxy-LNA units; and

wherein B comprises at least one internucleotide linkage which is not a phosphorothioate linkage.

Claim 79 (new): An oligonucleotide according to claim 43, wherein:

A has a length of 4 nucleotide units;

B has a length between 7-9 nucleotide units;

C has a length of 3 nucleotide units;

D has 1 nucleotide unit;

the overall length of the oligonucleotide is between 15-17 nucleotide units; the locked nucleotide units in A and C are beta-D-oxy-LNA units; B represents a sequence of nucleotide units that makes the oligonucleotide able to recruit RNase H when hybridised to a target nucleic acid; and wherein the internucleoside linkages

independently are selected from the group consisting of -O-P(O)₂-O-, -O-P(O,S)-O-,

-O-P(S)₂-O-, -NR^H-P(O)₂-O-, -O-P(O,NR^H)-O-, -O-PO(R'')-O-, -O-PO(CH₃)-O-, and

-O-PO(NHR^N)-O- where R^H is selected from hydrogen and C₁₋₆-alkyl, and R'' is selected from C₁₋₆-alkyl and phenyl.

Claim 80 (new): An oligonucleotide according to claim 79, wherein B comprises at least one internucleotide linkage which is not a -O-P(O)₂-O- linkage.

Claim 81 (new): An oligonucleotide according to claim 79, wherein B comprises at least one internucleotide linkage which is not a phosphorothioate linkage.